Message

From: Mia, Marcia [Mia.Marcia@epa.gov]
Sent: 7/31/2018 1:23:44 PM
To: Adam Seger [aseger@AEMERGEREDPAK.COM]; justin_beland@hcmstrategists.com; Landon Miller [lmiller@aemerge.com]
CC: Garwood, Gerri [Garwood.Gerri@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Hambrick, Amy [Hambrick.Amy@epa.gov]; Dancher, Nathan [Dancher.Nathan@epa.gov]; Ayres, Sara [Ayres.Sara@epa.gov]; Modak, Nabanita [Modak.Nabanita@epa.gov]
Subject: RE: Follow-up to our meeting - Aemerge/Redpak Hesperia CA

Gentlemen,
This is to follow-up on your January 8, 2018, letter and June 19, 2018, meeting with staff from EPA. As we move forward on a response to your request to us to reconsider our April 7, 2017, applicability determination for your Aermerge/Redpak system located in Hesperia, CA, we have some additional questions. We also request that you correct any factual errors in our current understanding of your process.

Description of Process
The carbonizer/gasifier system consists of the following components: a "sealed" pyrolysis chamber ("carbonizer/gasifier chamber"), a furnace using 32 natural gas-fired burner to provide indirect heat to the pyrolysis chamber, a thermal oxidizer without integrated heat recovery which is equipped with a single natural gas-fired burner, a heat exchanger, and an emergency enclosed flare. You describe the collection of these components interchangeably as the "pyrolysis system" or the "carbonizer/gasifier system."

Operation of carbonizer/gasifier
The carbonizer/gasifier chamber ("chamber") can process up to 7,500 pounds per hour (pph) of hospital, medical, infectious waste (HMIW). This chamber employs multiple airlocks to prevent air from entering the chamber and the chamber is constantly monitored to assure that it is maintained under negative pressure throughout the system and that the nitrogen atmosphere is below 7-8% oxygen. The chamber is indirectly heated by the 32 natural gas-fired burner system to enable endothermic gasification of the HMIW. The char, glass and metals are removed from the chamber while maintaining the nitrogen atmosphere. The syngas and purge nitrogen is routed to a thermal oxidizer.

"Small py Unit"
The facility also has a small py unit ("unit"), which is able to process up to 100 pph pathological waste unit. This unit has one natural gas-fired burner which indirectly heats the HMIW. The syngas from this unit exhausts to a venturi scrubber and then to an enclosed flare.

Questions for the Carbonizer/Gasifier System
1. Please explain stepwise, how the airlock system and nitrogen purge, function.
2. Does the system shutdown if there is an airlock system failure?
3. How is the airlock system is operated, monitored (including how often and averaging time) , and controlled?
4. How does the system know there is an airlock failure (e.g., what is monitored and how often?)
5. What is the source of the nitrogen? Is it 7-8% oxygen, as delivered? If not, how is the oxygen introduced and how is the oxygen concentration monitored? How frequently and what is the averaging time?
6. By use of the term "indirect heat" does this mean that the HMIW never comes in direct contact with the flame?
7. Is the vacuum gauge connected to a central PLC that will shut the system down if the negative pressure exceeds the desired pressure range? How frequently is the negative pressure monitored and what is the averaging time?
8. How are the char, glass and metals removed without disturbing the negative pressure, air locks and nitrogen environment?
9. Please provide a temperature profile of the chamber over the time of a cycle, which includes cold start, firing with natural gas, introduction of HMWI, production of syngas, removal of char, glass and metal from the unit. Please clearly depict the steps on the graph.

10. Please provide the natural gas-firing rate of the burners over the time of cycle, which includes cold start, firing with natural gas, introduction of HMWI, production of syngas, and removal of char, glass and metal from the unit. Please clearly depict the steps as they coincide with the firing rate.
11. Are there any other air pollution control devices before or after the thermal oxidizer? If yes, please describe their function and the parameters which are monitored (including frequency and averaging times).
12. Please provide an analysis (chemical characterization) of the resultant syngas.
13. Please include the results of any performance tests on the unit, and identify the sampling points (e.g. after the py unit/before the TO/after the TO).)
14. Please describe any additional monitoring (e.g. fugitives).

Questions for "small py unit"

1. Please describe how you ensure the small py unit remains oxygen free?
2. Please answer Q6, above, for the small py unit.
3. Please provide a temperature profile of the py chamber and the natural gas-firing rate of the burner, as described in items 9 & 10, above.
4. Please provide an analysis (chemical characterization) of the resultant syngas.
5. Please include the results of any performance tests on the unit, and identify the sampling points (e.g. after the py unit/before the venturi scrubber/before the flare/after the flare).
6. Please describe any additional monitoring (e.g. fugitives).

Thank you in advance for your patience with, and attention to, these additional questions.

Marcia B Mia
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From: Adam Seger [mailto:aseger@AEMERGEREDPAK.COM]
Sent: Tuesday, July 24, 2018 5:57 PM
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Subject: Re: Follow-up to our meeting

Thank you Marcia,

We look forward to your questions and providing our response.

Best,
Adam

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Subject: Follow-up to our meeting

Thanks again for meeting with us in DC in June to discuss your request for a reconsideration of our April 2017 determination for Aermerge, in more detail . We are working up some follow-up questions with R9 and OAQPS. I hope to have those ready to send out by the end of the week, or early next week. Thank you for your patience.

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